Work engagement measures: A systematic literature review*

Medición del engagement laboral: Una revisión sistemática de la literatura

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ABSTRACT
Most of the time, literature defines work engagement as a positive mental state characterized by the psychological presence at work and involving physical, emotional, and cognitive components. This systematic literature review aimed to identify instruments to measure engagement in the international context. We defined information sources, a search strategy, paper eligibility criteria, analysis criteria, and a data extraction process and present results. A total of 71 studies retrieved from online scientific databases were analyzed, including journal papers, book chapters, books, and manuals. We identified 25 Likert-type scales (of which 15 were analyzed) that differ from each other according to the perspective on work engagement. It is considered that, by pointing out a range of different psychometric scales as well as adjusting each one to four different theoretical perspectives, this paper may assist researchers in choosing the scale that is most aligned with their research objectives.

Keywords
work engagement; measurement instruments; psychometric scales; organizational behavior; work and organizational psychology.

RESUMEN
La literatura define el compromiso laboral como un estado mental positivo, marcado por la presencia psicológica en el trabajo, que involucra componentes físicos, emocionales y cognitivos. Esta revisión sistemática tuvo como objetivo identificar instrumentos internacionales para medir el engagement. Se definieron fuentes de información, estrategia de búsqueda, criterios de elegibilidad de artículos, criterios de análisis, proceso de extracción de datos de artículos y presentación de resultados. Se recuperaron y analizaron un total de 71 estudios a partir de bases de datos científicas, incluidos artículos de periódicos, libros y capítulos de libros. Se identificaron 25 escalas Likert (de las cuales se analizaron 15), que son diferentes entre sí, de acuerdo con la perspectiva teórica del compromiso. Se considera que este artículo, al señalar diferentes escalas psicométricas, y ajustando cada una em cuatro perspectivas teóricas diferentes, puede ayudar a los investigadores a elegir aquellas que mejor se adapten a sus propósitos científicos.

Palabras clave
engagement laboral; instrumentos de medición; escalas psicométricas; comportamiento organizacional; psicología del trabajo y las organizaciones.

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The first author to treat the concepts of engagement and disengagement at work was Kahn (1990), according to whom "they refer to the behaviors by which people bring in or leave out their personal selves during work role performances" (p. 694). When engaged, people employ and express themselves physically, cognitively, and emotionally while performing their roles. In turn, disengagement would be the "uncoupling of selves from work roles; in disengagement, people withdraw and defend themselves physically, cognitively, or emotionally during role performances" (p. 694).

Although the qualitative research by Kahn (1990) is a pioneer and has anchored other studies on the theme, it was only with the emergence of Positive Psychology (Seligman & Csikszentmihalyi, 2000) in the early 2000s that the engagement construct structure became analyzed in depth. However, the popularization of the concept was accompanied by a plurality of understandings about the engagement constitution, starting from an approach that associates engagement with personal factors (Kahn, 1990), going through an understanding of engagement as the antithesis of burnout (Maslach & Leiter, 1997), and arriving at the approach that dominates theoretical essays today, which is derived from the studies by Schaufeli et al. (2002). The latter understands engagement as a relatively enduring state of mind that is positive and rewarding associated with the work and marked by vigor, dedication, and absorption. Subsequently, another approach began associating engagement with organizational factors (Saks, 2006).

Since the early 2000s, psychometric scales capable of measuring work engagement became popular both in academia and business environments. However, it is noticeable that the elaboration of these scales accompanies this plurality of theoretical perspectives. Thus, this manuscript is a systematic literature review that aims to identify different instruments employed in the international literature to measure worker engagement in organizations. By pointing out different theoretical approaches to engagement and framing the different instruments in each of them, we hope to provide subsidies for researchers to choose which scale to use in their empirical research, assessing which best suits their objectives.

In a preliminary consultation, we sought to identify international systematic reviews on the subject in order to ensure relevance that justified the research proposed here. Although we have found theoretical review papers on the concept (Ababneh & Macky, 2015; Attridge, 2009; Schaufeli & Bakker, 2010; Shuck, 2011; Simpson, 2009), we did not find a systematic review that would survey psychometric scales used for its measurement. The review papers found that sought to point out different psychometric scales for engagement did not present a systematization of the methodology used in their research or did not find as many psychometric scales as those indicated in this manuscript.

Work engagement: different approaches

The diversity of perspectives on work engagement has led some authors to analyze the historicity of this concept's construction and systematically divide these understandings from the theoretical perspective that different authors have put forward over the years. Based on the systematic review undertaken in this manuscript, as well as the systematization of two predecessor papers (Shuck, 2011; Simpson, 2009), we identified four theoretical perspectives for work engagement, which are presented below.

1) The personal engagement approach by Kahn (1990)

Kahn (1990) uses the concepts of personal engagement and disengagement from a psychoanalytic and sociological view that people are inherently ambivalent in the course of their personal history. Thus, individuals alternate moments in which they move away from or approach certain situations or associations in order to protect themselves or embrace

such situations. For the author, personal engagement is an internal state affected by external forces. Although models of antecedents and consequences of engagement have been developed since the 2000s, Kahn (1990) had already pointed out three previous psychological domains that make an individual feel engaged or disengaged: meaningfulness, safety, and availability. Psychological meaningfulness consists of a sense that there will be a positive return on the investments employed during work. Psychological safety refers to the feeling that, by showing oneself, there will be no negative consequences for one's self-image or career. Last, availability is associated with the feeling that one has the necessary and essential resources to work (Kahn, 1990).

In his approach, the author emphasizes engagement is expressed in three dimensions: physical, emotional, and cognitive (Kahn, 1990). Based on this precursor view, later authors defined other dimensions – not so distinct – as constituting engagement.

2) Engagement as the antithesis of burnout

It is an approach that emerged from the burnout studies undertaken by Maslach and Leiter (1997). At the time, the burnout literature was focused on seeking a cure for psychosocial diseases and on studies that mainly associated the disease with occupations that interact with people (Shuck, 2011). From the perspective of Maslach et al. (2001, p. 417), work engagement was conceptualized as "a persistent positive affective state characterized by high levels of activation and pleasure". Engagement studies then began considering the role of well-being as a strategy to overcome burnout (Shuck, 2011), and the two constructs began to be seen as opposites of the same continuum (Maslach et al., 2001; Schaufeli & Bakker, 2009). From this approach, the burnout dimensions of exhaustion, cynicism, and ineffectiveness are seen as the opposites, respectively, of the engagement dimensions of energy, involvement, and efficacy (Maslach & Leiter, 1997).

Thus, for some time, the Maslach Burnout Inventory (MBI) was used to evaluate psychometric aspects of both burnout and engagement until this conception started to be objected to (Simpson, 2009). For Johnson (2003), this approach is critical since it ignores cognitive engagement processes as theorized by Kahn (1990). For Ababneh and Macky (2015, p. 15), "assuming the absence of one thing implies the presence of a theorized opposite is fraught". In other words, when a worker is not affected by burnout syndrome, it does not necessarily mean they have a level of engagement in their workplace (Teles et al., 2017).

3) The work engagement approach by Schaufeli et al. (2002)

Engagement as a behavior in which the worker spends energy to play a certain role is considered a manifestation of psychological presence at work, a specific mental state. Currently, the dominant conception is derived from the studies by Schaufeli et al. (2002, p. 74), according to which "engagement is defined as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption". In these authors' view, engagement is not "a momentary and specific state", but rather "a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behavior".

The dimensions suggested by Schaufeli et al. (2002) are closely related to those developed by Kahn (1990). In general, "both the vigor and physical dimensions refer to being full of energy and working until the job is done" (Viljevac et al., 2012, p. 3694). Dedication and the emotional dimension are related to "a sense of significance from one's work, feeling enthusiastic and proud about one's job, and feeling inspired and challenged by it" (Schaufeli & Bakker, 2009, p. 6). And "the absorption and cognitive scales have to do with losing oneself in one's job and forgetting about everything else" (Viljevac et al., 2012, p. 3694).

4) The focus on organizational aspects and work tasks by Saks (2006)

For Saks (2006), engagement involves cognitive, emotional, and behavioral components. However, for the author, engagement is a result of social exchange and, therefore, has two dimensions, one related to work activities and the other associated with the organization. The model developed by the author points out antecedents and consequences of engagement. For Saks (2006), job characteristics, perceived support, justice, and rewards are predictors of engagement. In turn, engaged workers show more satisfaction, commitment, and organizational citizenship behavior and less intention to quit.

In fact, organizational factors are pointed out as having an influence on engagement. A trend has been to use different models to assess how organizational factors, work resources, and job demands suggest engagement (Simpson, 2009). Among these models, the most commonly used is the Job Demands-Resources Model (JD-R) (Bakker & Demerouti, 2007).

Method

This manuscript consists of a systematic literature review aimed at identifying different work engagement measurement instruments proposed in the international context. A defined protocol was not registered to this end, but we adopted criteria that are common to methodologies that propose systematic reviews (Kitchenham & Charters, 2007; Moher et al., 2009) in order to guarantee iterativity and methodological rigor in the research process. We defined databases, a search strategy, criteria for the eligibility and exclusion of papers and selection of studies, paper analysis criteria, and a process for extracting data from papers, synthesizing it, and presenting results.

We analyzed journal papers, book chapters, books, and manuals retrieved from online scientific databases. The planning process began with the definition of the databases for retrieving studies. The selected databases were Scielo (a database with visibility in Latin America) and Web of Science because it is a wide-ranging database that gathers journals from different areas of knowledge. We did not set restrictions on paper language. However, it should be noted that the searches in both databases were carried out using English terms. It was decided to recover scientific papers published between 1990 and 2020. We chose 1990 as the starting point because it was the year of publication of Kahn (1990), the first to discuss engagement.

We started collecting data from the Web of Science. The iterative process of searching for papers is presented in Table 1. From preliminary readings, we defined meaningful terms that could return papers relevant to the aim of this research. Thus, two blocks of keywords were defined (measurement instruments *vs.* work engagement). After consecutive searches, we attempted to fine-tune the results and eliminate noise to better meet the objectives of this manuscript, reaching the number of 46 papers in the Web of Science database deemed relevant to the scope of this research. The same search dynamics was applied to the Scielo database and returned 15 studies, totalizing 61 papers.

Table 1
Successive search process – Web of Science

Search	String	Web of Science
#1	TS=(measure* **OR** scale **OR** instrument **OR** inventory **OR** quiz **OR** questionnaire **OR** tool)	10.942.623
#2	TS=("work engagement" **OR** engaged **OR** "engagement at work" **OR** "personal engagement" **OR** "disengagement at work" **OR** "job engagement")	276.815
#1AND#2		75.165
#4	TS=("work engagement" **OR** "engagement at work" **OR** "disengagement at work" **OR** "job engagement")	4.640
#1AND#4		2.76
#6	TS=("work engagement measure*" **OR** "work engagement scale" **OR** "work engagement instrument" **OR** "work engagement inventory" **OR** "work engagement quis" **OR** "work engagement questionnaire" **OR** "work engagement tool" **OR** "job engagement measur*" **OR** "job engagement scale" **OR** "job engagement instrument" **OR** "job engagement inventory" **OR** "job engagement quis" **OR** "job engagement questionnaire" **OR** "job engagement tool" **OR** "engagement at work measur*" **OR** "engagement at work scale" **OR** "engagement at work instrument" **OR** "engagement at work inventory" **OR** "engagement at work quis" **OR** "engagement at work questionnaire" **OR** "engagement at work tool")	393
#7	TI=("work engagement measur*" **OR** "work engagement scale" **OR** "work engagement instrument" **OR** "work engagement inventory" **OR** "work engagement quis" **OR** "work engagement questionnaire" **OR** "work engagement tool" **OR** "job engagement measur*" **OR** "job engagement scale" **OR** "job engagement instrument" **OR** "job engagement inventory" **OR** "job engagement quis" OR "job engagement questionnaire" **OR** "job engagement tool" **OR** "engagement at work measur*" **OR** "engagement at work scale" **OR** "engagement at work instrument" **OR** "engagement at work inventory" **OR** "engagement at work quis" **OR** "engagement at work questionnaire" **OR** "engagement at work tool")	46

Note. Timespan: 1990-2020 / Document types: All document types / Search date: Oct. 5, 2020

After identifying these 61 papers, we performed an analysis of the references cited by each one, finding 65 new publications potentially aligned with the purpose of this research and that had not been returned when searching the indicated databases, totalizing 126 papers. Thus, we started to read the abstracts of the 126 publications in order to understand whether or not they were relevant to the aim of this research. The criteria for exclusion were the following: a) being repeated; b) citing the issue of work engagement only tangentially; c) not presenting new instruments or validation of already known instruments, but merely the application of already consolidated instruments (i.e., strictly empirical studies); d) presenting scales of engagement created for contexts other than work. We excluded 55 papers that met at least one of the exclusion criteria. In the end, the analysis was performed with 71 papers.

The 71 selected papers were then read in full and analyzed according to a) their purpose (e.g., validation, proposal of a new scale, literature review); b) the dimensions and items of the identified instruments; c) their theoretical perspectives. A pilot form for data collection was defined according to these criteria. As the papers were read in full, the forms were filled with relevant information.

Results

Table 2 shows the list of 71 papers analyzed, among which 69 % aimed to validate scales in contexts and countries other than those for which they were originally conceived, 14 papers (20 %) proposed and validated new scales, and another 11 % presented reviews about the concept and measurement instruments or comparisons between different scales using the same worker sample.

Table 2
Paper proposal

Paper proposal	Paper	Amount	%
Validation of already consolidated scales	Choi et al. (2020); Lazauskaitė-Zabielskė et al. (2020); Song et al., (2020); Tran et al. (2020); Kulikowski (2019); Pujol-Cols & Arraigada (2018); Sinval et al. (2018); Tomás et al. (2018); Ho-Kim et al. (2017); Lathabhavan et al. (2017); Lovakov et al. (2017); Petrović et al. (2017); Schaufeli et al. (2017); Teles et al. (2017); Vallières et al. (2017); Costa et al. (2016); Ferreira et al. (2016); Magnan et al. (2016); Sulaiman & Zahoni (2016); Vargas et al. (2016); Fong & Ho (2015); Vazquez et al. (2015); Zecca et al. (2015); Kulikowski & Madej (2014); Panthee et al. (2014); Rodríguez-Montalbán et al. (2014) : De Bruin & Henn (2013); De Bruin et al. (2013) : Müller-Gilchrist et al. (2013); Simbula et al. (2013); Yusoff et al. (2013) : Breevaart et al. (2012a); Breevaart et al. (2012b); Chaudhary et al. (2012) : Extremera et al. (2012) : Fong & Ng (2012); Klassen et al. (2012); Mills et al. (2012); Spontón et al. (2012); Viljevac et al. (2012); Xanthopoulou et al. (2012); Goliath-Yarde & Roodt (2011); Nerstad et al. (2010); Seppälä et al. (2009); Pisanti et al. (2008); Shimazu et al. (2008); Hallberg & Schaufeli (2006); Naudé & Rothmann (2004); Storm & Rothmann (2003).	49	69%
Proposal of a new scale	Ababneh et al. (2019); Lupano-Perugini et al. (2017); Costa et al. (2014); Matz-Costa et al. (2014); Siqueira et al. (2014); Witemeyer et al. (2013); Soane et al. (2012); Rich et al. (2010); Saks (2006); Schaufeli et al. (2006); May et al. (2004); Robinson et al. (2004); Schaufeli et al. (2002); Rothbard (2001).	14	20%
Bibliographic review / comparison between scales	Kulikowski (2017); Ababneh & Macky (2015); Wefald et al. (2012); Christian et al. (2011); Schaufeli & Bakker (2010); Attridge (2009); Schaufeli & Bakker (2009); Newman & Harrison (2008).	8	11%

From the analysis of 71 papers, we found 25 work engagement measurement instruments, 18 of which are academic and 7 used by Human Resources consultancy companies for commercial purposes. The list of identified instruments is shown in Table 3.

Table 3
Work engagement measurement instruments

Type	N.	Scale Name	Proposed by	Number of papers in which it was cited	%
Academic	1	Utrecht Work Engagement Scale (UWES)	Schaufeli et al., 2002	59	83.1%
	2	May, Gilson and Harter Scale (May Scale)	May et al., 2004	6	8.5%
	3	Maslach Burnout Inventory (MBI)	Maslach & Leiter, 1997	5	7.0%
	4	Saks Scale	Saks, 2006	4	5.6%
	5	Rothbard Scale	Rothbard, 2001	3	4.2%
	6	Rich, Lepine, and Crawford Scale (Rich Scale)	Rich et al., 2010	3	4.2%
	7	Shirom-Melamed Vigor Measure (SMVM)	http://shirom.org	3	4.2%
	8	Engagement Tool of the Institute for Employment Studies (IES Scale)	Robinson et al., 2004	2	2.8%
	9	Team Work Engagement Scale (TWES)	Costa et al., 2014	2	2.8%
	10	Witemeyer, Ellen and Straub Scale	Witemeyer et al., 2013	2	2.8%
	11	Work Engagement Scale (EEGT)	Siqueira et al. 2014	2	2.8%
	12	Oldenburg Burnout Inventory (OLBI)	Evangelia Demerouti, 1998	2	2.8%
	13	Productive Engagement Portfolio (PEP)	Matz-Costa et al., 2014	1	1.4%
	14	Argentine Work Engagement Scale (EACT)	Lupano-Perugini et al., 2017	1	1.4%
	15	Ababneh, LeFevre and Bentley Scale (Ababneh Scale)	Ababneh et al., 2019	1	1.4%
	16	Intellectual, Social, Affective Engagement Scale (ISA)	Soane et al., 2012	1	1.4%
	17	Britt Scale	Thomas Britt	1	1.4%
	18	Czarnowsky Scale	American Society for Training and Development (ASTD)	1	1.4%
Business	19	Gallup 12/Gallup Workplace Audit (GWA)	https://q12.gallup.com/	3	4.2%
	20	BlessingWhite	https://blessingwhite.com/	1	1.4%
	21	Hewitt	https://www.aonhewitt.com.au	1	1.4%
	22	Sirota	https://www.sirota.com	1	1.4%
	23	Towers Perrin	https://employeeengagement.com	1	1.4%
	24	Valtera	http://www.valtera.com/	1	1.4%
	25	Watson Wyatt Worldwide	http://www.sidathyder.com.pk/	1	1.4%

Theoretical perspective	Scale	Number of items	Engagement dimensions				
			Physical component	Emotional component	Cognitive component	Organizational component	Task component
Work engagement approach	UWES	17-15-9-6-3	Vigor	Dedication	Absorption		
	EACT	11	Energy		Absorption Attention		
	EEGT	10	Vigor		Absorption		
	Rothbard Scale	9			Absorption Attention		
	TWES	9	Unidimensional				
Burnout antithesis approach	MBI	22	Exhaustion (op. energy)	Cynicism (op. involvement)	Ineffectiveness (op. efficacy)		
	OLBI	16	Energy (Exhaustion-Vigor)	Identification (Cynicism-Dedication)			
Kahn's personal engagement approach	May Scale	13	Physical engagement	Emotional engagement	Cognitive engagement		
	Rich Scale	18	Physical engagement	Emotional engagement	Cognitive engagement		
	PEP	17	Unidimensional				
	SMVM	12	Physical strength	Emotional energy	Cognitive liveliness		
	ISA	9		Affective engagement	Intellectual engagement	Social engagement	
Organizational aspects and work tasks approach	Saks Scale	11				Organization engagement	Job engagement
	Ababneh Scale[a]	20	Discretionary effort	Emotion and activation	Absorption	Identification	Task performance
	IES Scale	12	Unidimensional				

Figure 1.
Engagement dimensions according to different authors.
Note. [a] The Ababneh Scale was identified as also being influenced by Kahn's perspective

To arrive at the list of measurement instruments, we considered not only the full presentation of a scale but eventually just its mentioning in the academic papers. Thus, although 25 instruments were found, it was not possible to access them in their entirety. Due to the proprietary nature of business scales, we have chosen, in this manuscript, to emphasize academic scales. For access reasons, in the discussion below, we will consider 15 academic scales to which we obtained full access to their contents.

Discussion

We found measurement tools that consider engagement as both a one-dimensional and multidimensional construct. Chart 1 presents the dimensions proposed for each scale as well as the theoretical perspective basing each one.

A. Scales influenced by the approach by Schaufeli et al. (2002)

The UWES was the most frequent instrument among the analyzed papers, having been validated or cited by 83.1 % of the studies, demonstrating its hegemony as a measurement tool for work engagement. The UWES has been translated and validated in countries on five continents in versions with 17, 15, 9, 6, or 3 items. There is also a version for daily and continuous evaluation of engagement. Its mastery may be due to the effort of its creators in translating and validating the scale in different languages in collaboration with researchers from other countries. It is a three-dimensional scale composed of the dimensions of vigor, dedication, and absorption (Schaufeli et al., 2002). The authors emphasize that the UWES may be used as part of antecedents and consequences research or as an instrument for psychosocial risk assessment (Schaufeli & Bakker, 2009). Based on a literature review of UWES validation papers, Kulikowski (2017) points out that the nine-item version of the UWES is presented "as a more valid and reliable measure of work engagement" (p. 170).

In fact, the many approaches to engagement pointed out in this manuscript reveal that there is no convergence of views on what should be

the ideal way to measure the construct, which often reverts to direct criticism of the UWES as the dominant measurement tool, especially with regard to its factorial structure (Ababneh & Macky, 2015; Kulikowski, 2017; Newman & Harrison, 2008; Wefald et al., 2012).

The TWES follows the approach by Schaufeli et al. (2002) and proposes to evaluate engagement in group work. The results support the idea that engagement in teamwork and at the individual level are two different constructs, albeit related (Costa et al., 2014). The authors start from the UWES-9 to develop a scale that differs from the original one on how to elaborate the questions, replacing the "I" with "we". The TWES may be answered individually and have the team members' answers subsequently aggregated or collectively through group discussions. The authors did not find a three-factor structure for the scale, which resulted in a one-dimensional instrument.

The scale developed by Rothbard (2001) is the oldest among those studied. Although it was proposed before the research by Schaufeli et al. (2002), it fits better with the engagement approach of these authors, even if partially. The same is true for the EACT and EEGT. In the conception of these three scales, the emotional component is not necessarily associated with engagement.

Rothbard (2001) aimed to present and validate a work and family engagement scale, evaluating their different roles and correlating engagement with other constructs, such as family and work importance and family and work demands. Proposed in 2001, it has nine items divided into two dimensions: attention and absorption. In fact, the items elaborated by this author for the absorption dimension underpinned the later development of the scales that consider this dimension, given that it is possible to see similarities in questions of the subsequent scales when compared to those of the Rothbard Scale.

Upon suggesting the EACT, Lupano-Perugini et al. (2017) adopt a physical component (energy) and two cognitive components (attention and absorption), understanding that there is not necessarily an emotional component associated with the engagement phenomenon. The authors consider that attention "refers to the motivational resources that a person can apply to a given task", and absorption would be "the capacity of applying those resources with intensity" (Lupano-Perugini et al., 2017, p. 128).

The EEGT is a Brazilian two-dimensional proposal by Siqueira et al. (2014) to work with two dimensions: vigor and absorption, opting to exclude dedication because it is "a dimension very similar to other concepts in the literature of organizational behavior since its items are attributed to the work properties such as challenge, inspiration, enthusiasm, meaning, and purpose" (p. 150). The authors argue that, if they kept the items that measure dedication in their tool, there would be an overlap with items from other scales, which "could lead to biases in studies that relate work engagement to, for example, motivation and job meaningfulness or job involvement" (Siqueira et al., 2014, p. 150).

B. Scales of the burnout antithesis approach

The MBI is the most used burnout scale to assess the effects of this syndrome (Ababneh & Macky, 2015). It is an instrument divided into three dimensions: exhaustion, cynicism, and ineffectiveness. Using this scale, opposite scores from these three dimensions assess three other dimensions of engagement: energy, involvement, and efficacy, respectively (Maslach & Leiter, 1997). Like the MBI, the OLBI is a scale designed for burnout evaluation; however, it was used in some studies to assess engagement/disengagement in two opposite dimensions: energy (exhaustion-vigor) and identification (cynicism-dedication) (Christian et al., 2011). Although the burnout antithesis conception has been criticized and is currently not so frequent in empirical studies, we chose to indicate these two scales because it was identified that they also evaluate engagement.

C. Scales influenced by Kahn's personal engagement approach

Regarding the proposed items, it is possible to point out close similarities between the items of the May and Rich Scales, both influenced by Kahn's personal engagement approach and divided into three dimensions: physical, emotional, and cognitive engagement. The scale developed by May et al. (2004) consists of thirteen items and is pointed out as the first measurement instrument conceived from Kahn's conception (Ababneh & Macky, 2015; Viljevac et al., 2012). In turn, the Rich Scale consists of eighteen items. However, mainly in the absorption dimension, this instrument presents items with close similarities to each other such as "At work, I pay a lot of attention to my job", "At work, I focus a great deal of attention on my job", and "At work, I devote a lot of attention to my job" (Rich et al., 2010). In our literature review, we did not find any validation studies of this scale beyond the original research, but we conjecture that further validation attempts could indicate a leaner scale with fewer questions.

Matz-Costa et al. (2013) proposed a measurement scale for work engagement (not necessarily remunerated) among retired elderly people and related this engagement to the well-being perceived by such individuals in their lives from a preventive and restorative perspective. The PEP is a one-dimensional seventeen-item instrument since, in the authors' view, engagement involves "different levels of interest, focus, and energy experienced while enacting a role", which, at high levels of engagement, cannot be dismembered (p. 1296). Even with a one-dimensional proposal, their approach is close to Kahn's insofar as it represents engagement as an investment of multiple dimensions (physical, emotional, and cognitive) of life and job experiences, meeting personal needs of meaningfulness, safety, and availability.

The SMVM assesses engagement based on vigor. Although it may seem that the measure does not assess engagement itself, Shirom elaborated it based on Kahn's research and in criticism of the approach by Schaufeli et al. (2002). The author suggests the vigor component of engagement is the one that best expresses the concept and is not confused with other psychological constructions.In this conception, vigor is associated with the energy resources of an individual, which may be cognitive, emotional, or physical and are expressed from the dimensions of physical strength, emotional energy, and cognitive liveliness (Wefald et al., 2012).

Soane et al. (2012) presented a differentiated structure for engagement based on activation, positive affect, and focus. Their study culminated in the development of the ISA Engagement Scale. The focus, based on the forerunner vision by Kahn (1990), is an indispensable condition for engagement characterized as the alignment between work roles and work itself. For Soane et al. (2012), focus must be complemented by activation and positive affect in order to turn into engagement. Activation is a response to stimuli capable of triggering "a range of affective and cognitive responses" (Soane et al., 2012, p. 531), and positive affect concerns the activation of positive emotions stimulated by work. Based on the convergence of these three factors, the authors proposed the ISA as a three-dimensional measure formed by social, affective, and intellectual engagement. This model differs from the other scales presented, especially with regard to social engagement (e.g., "I share the same work values as my colleagues", "I share the same work goals as my colleagues"), an aspect suggested by Kahn (1990) but not considered in the construction of other scales.

D. Scales focusing on organizational and job aspects

The Saks Scale derives from the model of the antecedents and consequences of employee engagement and identifies the division between organizational engagement and job engagement, which comprise the two dimensions of the scale (Saks, 2006). Job engagement concerns the dedication and commitment to work tasks and

involves items such as "Sometimes I am so into my job that I lose track of time" and "I am highly engaged in this job". In turn, organizational engagement refers to the employee's involvement with their organization, involving statements such as "Being a member of this organization is very captivating", "One of the most exciting things for me is getting involved with things happening in this organization", and "Being a member of this organization make me come 'alive'".

The Ababneh Scale was proposed in 2019 and arose from an analysis that Ababneh and Macky (2015) and Ababneh et al. (2019) did on different measuring instruments. The authors argue, as Saks (2006) does, that it is imperative to differentiate employee engagement from job engagement. Job engagement refers to the attachment to employment tasks, while employee engagement involves job engagement associated with the attachment to the organization itself (Ababneh & Macky, 2015). This scale is also influenced by Kahn's view of engagement, especially with regard to adjusting workers to their work roles. As stated by Kahn (1990), "it is difficult for people to engage personally in fulfilling work processes when organizational ends do not fit their own values" (p. 716). Thus, Ababneh et al. (2019) suggest a scale composed of five dimensions: emotion and activation, discretionary effort, absorption, identification, and task performance. The dimensions of emotion and activation, discretionary effort, and absorption are related to job engagement. In turn, the dimensions of identification and task performance are associated with employee engagement.

Proposed by Robinson et al. (2004), the IES Engagement Tool explores engagement as an employee's tendency to align and commit to their organization. These authors understand that engagement has similarities and overlaps two other constructs: employee commitment and organizational citizenship behavior. However, it goes beyond both concepts by requiring that engaged employees have an element of awareness about the organization's business. The result is a one-dimensional scale that favors items such as "I speak highly of this organization to my friends", "I am proud to tell others I am part of this organization", and "This organization really inspires the very best in me in the way of job performance".

Conclusions, limitations, and directions for future research

This manuscript aimed to survey measurement instruments used mainly in the academic literature to assess work engagement. We found 25 scales between academic and business scales, 15 of which were analyzed. By conducting a robust investigation of the scales, pointing out different approaches to engagement, and framing the different instruments in each of them, we hope to assist researchers in choosing the scale or theoretical perspective that best suits their research objectives. As very well stated by Shuck (2011, p. 320), there is no right or wrong approach: "similar to choosing a research method, the approach used to study engagement should match the [research] question, definition, and chosen measurement tool".

From the analysis of the measurement instruments, we realized there is a diversity of scales, concepts, and dimensions associated with the construct. This diversity sometimes brings the instruments closer together and other times distances them. When we analyze the items on each scale, we realize the point that most approximates them is the cognitive component of the concept, associated with the notion of absorption and attention to work. Almost all scales indicate that engagement is associated with a state of being so involved in the job that one loses track of time or devotes oneself completely to the tasks until they are completed (except for the IES and SMVM scales). When studying scales, another point that seems clear is that engagement involves more a component of affection to the job itself than to the organization. Only three scales (Ababneh, Saks, and IES) comprise items that assess how much employees feel involved with the organization they work for. For three of the identified approaches, this shows

that work engagement is a state more associated with the identification and attachment to the tasks performed than to the organizational context in which the worker is inserted.

Psychometric scales are important tools for evaluating worker health in the work environment. Understanding the social and organizational conditions that affect a worker's quality of life may be converted into a mechanism for assessing psychosocial risks and enabling worker well-being. Specifically, "work engagement may play a mediating role between job resources on the one hand and positive work attitudes and work behaviors on the other hand" (Schaufeli & Bakker, 2009, p. 9). The different measurement instruments may be used jointly with other scales related to other organizational behavior constructs to elaborate a fuller picture of the reality experienced by the organization. It is essential, however, that the diagnosis be followed by practical actions and interventions in the organizational field with the expectation of mitigating work-related illnesses. Bakker et al. (2011, p. 85) stated that a genuine system of engagement is one in which workers and employers work together to create "a positive, trusting, civil, respectful, and mutually beneficial working relationship". We believe this idealized system is of complex achievement – given the worker/employer relationship is inherently a conflicting interests relationship – but should be pursued in order to achieve healthy work environments less susceptible to work illnesses.

As limitations of this research, we can mention the choice of only two databases, one of global reach and scope and another that includes academic papers produced mainly in Latin America. In future analyses, a search in other databases of global or continental reach – as Scielo is – could be undertaken in order to assess if there are local initiatives to propose scales in different countries. Another limitation of this research was the difficulty in accessing business scales. This could be a subject for future studies: an analysis of business scales to assess whether the corporate view converges to the academic view of engagement. A preliminary analysis of Gallup, the only scale to which we had access, indicates there may not be such a convergence. Finally, another proposal for future research consists of applying all instruments to the same worker sample to verify whether the returns obtained from the responses of each scale converge to common results or even how the variables in the different scales behave when compared to other constructs in prediction and correlation models.

References

Ababneh, O., Lefevre, M., & Bentley, T. (2019). Employee engagement: development of a new measure. *International Journal Human Resources Development and Management, 19*(2), 105-134. https://doi.org/10.1504/ijhrdm.2019.098623

Ababneh, O., & Macky, K. (2015). The meaning and measurement of employee engagement: a review of the literature. *New Zealand Journal of Human Resource Management, 15*(1), 1-20. Retrieved from http://www.nzjhrm.co.nz

Attridge, M. (2009). Measuring and managing employee work engagement: a review of the research and business literature. *Journal of Workplace Behavioral Health, 24*(4), 383-398. https://doi.org/10.1080/15555240903188398

Bakker, A., Albrecht, S. & Leiter, M. (2011). Work engagement: further reflections on the state of play. *European Journal of Work and Organizational Psychology, 20*(1), 74-88. https://doi.org/10.1080/1359432X.2010.546711

Bakker, A., & Demerouti, E. (2007). The job demands–resources model: state of the art. *Journal of* Managerial Psychology, 22(3), 309–328. https://doi.org/10.1108/02683940710733115

Breevaart, K., Bakker, A., & Demerouti, E. (2012a). The measurement of state work engagement: a multilevel factor analytic study. *European Journal of Psychological*

Assessment, 28(4), 305-312. https://doi.org/10.1027/1015-5759/a000111

Breevaart, K., Bakker, A., & Demerouti, E. (2012b). Psychometrische eigenschappen van meetinstrumenten in dagboekonderzoek: illustratie aan de hand van bevlogenheid. *Gedrag & Organisatie, 25*(4), 419-432. Retrieved from https://www.gedragenorganisatie.nl/

Chaudhary, R., Rangnekar, S., & Barua, M. (2012). Psychometric Evaluation of Utrecht Work Engagement Scale in an Indian Sample. *Asia-Pacific Journal of Management Research and Innovation, New York, 8*(3), 343-350. https://doi.org/10.1177/2319510X1200800314

Choi, M., Suh, C., Choi, S., Lee, C., & Son, B. (2020). Validation of the Work Engagement Scale-3, used in the 5th Korean Working Conditions Survey. *Annals of Occupational and Environmental Medicine, 32*(1). https://doi.org/10.35371/aoem.2020.32.e27

Christian, M., Garza, A., & Slaughter, J. (2011). Work engagement: a quantitative review and test of its relations with task and contextual performance. *Personnel Psychology, 67*(1), 89-136. https://doi.org/10.5465/AMBPP.2007.26536346

Costa, P., Passos, A., & Bakker, A. (2014). Empirical validation of the team work engagement construct. *Journal of Personnel Psychology, 13*(1), 34-45. https://doi.org/10.1027/1866-5888/a000102

Costa, P., Passos, A., & Bakker, A. (2016). The work engagement grid: predicting engagement from two core dimensions. *Journal of Managerial Psychology, 31*(4), 774-789. https://doi.org/10.1108/JMP-11-2014-0336

De Bruin, G., & Henn, C. (2013). Dimensionality of the 9-Item Utrecht Work Engagement Scale (UWES-9). *Psychological Reports, 112*(3), 788-799. https://doi.org/10.2466/01.03.pr0.112.3.788-799

De Bruin, G., Hill, C., Henn, C., & Muller, K.-P. (2013). Dimensionality of the UWES-17: an item response modelling analysis. *SA Journal of Industrial Psychology, 39*(2), 1-8. https://doi.org/10.4102/sajip.v39i2.1148

Extremera, N., Sánchez-García, M., Durán, M., & Rey, L. (2012). Examining the psychometric properties of the Utrecht Work Engagement Scale in two Spanish multi-occupational samples. *International Journal of Selection and Assessment, 20*(1), 105-110. Retrieved from https://onlinelibrary.wiley.com/journal/14682389

Ferreira, M., Valentini, F., Damásio, B., Mourão, L., Porto, J., Chinelato, R., Novaes, V., Pereira, M. (2016). Evidências adicionais de validade da UWES-9 em amostras brasileiras. *Estudos de Psicologia, 21*(4), 435-445. https://doi.org/10.5935/1678-4669.20160042

Fong, T., & Ho, R. (2015). Dimensionality of the 9-item Utrecht Work Engagement Scale revisited: a Bayesian structural equation modeling approach. *Journal of Occupational Health, 57*(4), 353-358. https://doi.org/10.1539/joh.15-0057-ao

Fong, T., & Ng, S. (2012). Measuring engagement at work: validation of the Chinese version of the Utrecht Work Engagement Scale. *International Journal of Behavioral Medicine, 19*(3), 391-397. https://doi.org/10.1007/s12529-011-9173-6

Goliath-Yarde, L., & Roodt, G. (2011). Differential item functioning of the UWES-17 in South Africa. *SA Journal of Industrial Psychology, 37*(1), 1-11. https://doi.org/10.4102.sajip.v37i1.897

Hallberg, U., & Schaufeli, W. (2006). "Same same" but different? Can work engagement be discriminated from job involvement and organizational commitment? *European Psychologist, 11*(2), 119-127. https://doi.org/10.1027/1016-9040.11.2.119

Ho Kim, W., Park, J., & Kwon, B. (2017). Work engagement in South Korea. *Psychological Reports, 120*(3), 561-578. https://doi.org/10.1177/0033294117697085

Johnson, J. (2003). Toward a better understanding of the relationship between personality and individual job performance. In: M. Barrick & A. Ryan. *Personality and*

work: Reconsidering the role of personality in organizations (pp. 83-120). Jossey-Bass.

Kahn, W. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33*(4), 692-724. https://doi.org/10.5465/256287

Kitchenham, B., & Charters, S. (2007). *Guidelines for performing systematic literature reviews in software engineering.* Keele: EBSE Technical Report. Retrieved from https://www.elsevier.com/__data/promis_misc/525444systematicreviewsguide.pdf

Klassen, R., Aldhafri, S., Mansfield, C., Purwanto, E., Siu, A., Wong, M., & Woods-McConney, A. (2012). Teacher's engagement at work: an international validation study. *The Journal of Experimental Education, 80*(4), 317-337. https://doi.org/10.1080/00220973.2012.678409

Kulikowski, K. (2017). Do we all agree on how to measure work engagement? Factorial validity of Utrecht Work Engagement Scale as a standard measurement tool: a literature review. *International Journal of Occupational Medicine and Environmental Health*, 30(2), 161-175. https://doi.org/10.13075/ijomeh.1896.00947

Kulikowski, K. (2019). One, two or three dimensions of work engagement? Testing the factorial validity of the Utrecht work engagement scale (UWES) on a sample of Polish employees. *International Journal of Occupational Safety and Ergonomics, 25*(2), 241-249. https://doi.org/10.1080/10803548.2017.1371958

Kulikowski, K., & Madej, M. (2014). Zaangażowanie w pracę: problemy z pomiarem. *Problemy Zarzdzania, 12*(1), 99-112. https://doi.org/10.7172/1644-9584.45.7

Lathabhavan, R., Balasubramanian, S., & Natarajan, T. (2017). A psychometric analysis of the Utrecht Work Engagement Scale in Indian banking sector. *Industrial and Commercial Training, 49*(6), 296-302. https://doi.org/10.1108/ict-04-2017-0031

Lazauskaitė-Zabielskė, J., Urbanavičiūtė, I., & Balsienė, R. (2020). The structure of work engagement: a test of psychometric properties of the Lithuanian Version of the Utrecht Work Engagement Scale. *European Journal of Psychological Assessment, 36*, pp. 601-611. https://doi.org/10.1027/1015-5759/a000545

Lovakov, A., Agadullina, E., & Schaufeli, W. (2017). Psychometric properties of the Russian version of the Utrecht Work Engagement Scale (UWES-9). *Psychology in Russia: State of the Art, 10*(1), 145-162. https://doi.org/10.11621/pir.2017.0111

Lupano-Perugini, M., de la Iglesia, G., Castro-Solano, A., & Fernández-Liporace, M. (2017). Validación de una Escala sobre Work Engagement. Perfiles asociados a alta Performance y Satisfacción Laboral. *Ciencias Psicológicas, 11*(2), 127-137. https://doi.org/10.22235/cp.v11i2.1482

Magnan, E., Vazquez, A., Pacico, J., & Hutz, C. (2016). Normatização da versão Brasileira da Escala Utrecht de Engajamento no Trabalho. *Avaliação Psicológica, 15*(2), 133-140. https://doi.org/10.15689/ap.2016.1502.01

Maslach, C., & Leiter, M. (1997). *The truth about burnout: How organizations cause personal stress and what to do about it.* Jossey Bass.

Maslach, C., Schaufeli, W., & Leiter, M. (2001). Job burnout. *Annual Review of Psychology, 52*, 397-422. https://doi.org/10.1111/1467-8721.01258

Matz-Costa, C., James, J., Ludlow, L., Brown, M., Besen, E., & Johnson, C. (2013). The meaning and measurement of productive engagement in later life. *Social Indicators Research, 118*(3), 1293-1314. https://doi.org/10.1007/s11205-013-0469-6

May, D., Gilson, R., & Harter, L. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology, 77*(1), 11-37. https://doi.org/10.1348/096317904322915892

Mills, M., Culbertson, S., & Fullagar, C. (2012). Conceptualizing and measuring engagement: an analysis of the Utrecht Work Engagement Scale. *Journal of Happiness Studies, 13*(3), 519-545. https://doi.org/10.1007/s10902-011-9277-3

Moher, D., Liberati, A., Tetzlaff, J., Altman, D., & The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine, 6*(7), 1-6. https://doi.org/10.1371/journal.pmed.1000097

Müller-Gilchrist, R., Exequel-Pérez-Villalobos, C., & Ramirez-Fernández, L. (2013). Estructura factorial y consistencia interna de la Utrech Work Engagement Scale (UWES) 17 entre trabajadores sanitarios de Chile. *Liberabit, 19*(2), 163-171. Retrieved from http://revistaliberabit.com/es/publicaciones/

Naudé, J., & Rothmann, S. (2004). The validation of the Utrecht Work Engagement Scale for emergency medical technicians in Gauteng. *South African Journal of Economic and Management Sciences*. .(3), 459-468. https://doi.org/10.4102/sajems.v7i3.1356

Nerstad, C., Richardsen, A., & Martinussen, M. (2010). Factorial validity of the Utrecht Work Engagement Scale (UWES) across occupational groups in Norway. *Scandinavian Journal of Psychology, 51*(4), 326-333. https://doi.org/10.1111/j.1467-9450.2009.00770.x

Newman, D., & Harrison, D. (2008). Been there, bottled that: are state and behavioral work engagement new and useful construct "wines"? *Industrial and Organizational Psychology, 1*(1), 31-35. Retrieved from https://onlinelibrary.wiley.com/journal/17549434

Panthee, B., Shimazu, A., & Kawakami, N. (2014). Validation of Nepalese version of Utrecht Work Engagement Scale. *Journal of Occupational Health, 56*(6), 421–429. https://doi.org/10.1539/joh.14-0041-ao

Petrović, I., Vukelić, M., & Čizmić, S. (2017). Work Engagement in Serbia: psychometric properties of the Serbian version of the Utrecht Work Engagement Scale (UWES). *Frontiers in Psychology, 8*(1799), 1-12. https://doi.org/10.3389/fpsyg.2017.01799

Pisanti, R., Paplomatas, A., & Bertini, M. (2008). Misurare le dimensioni positive nel lavoro in sanità: un contributo all'adattamento italiano della UWES – Utrecht Work Engagement Scale. *Giornale italiano di medicina del lavoro ed ergonomia, 30*(1), 111-119. Retrieved from https://www.gimle.biz/

Pujol-Cols, L., & Arraigada, M. (2018). Propiedades psicométricas de la versión corta de la Utrecht Work Engagement Scale en trabajadores argentinos. *Pensamiento Psicológico, 16*(2), 31-45. https://doi.org/10.11144/javerianacali.PPSI16-2.ppvc

Rich, B., Lepine, J., & Crawford, E. (2010). Job engagement: antecedents and effects on job performance. *Academy of Management Journal, 63*(3), 617-635. https://doi.org/10.5465/AMJ.2010.51468988

Robinson, D., Perryman, S., & Hayday, S. (2004). *The drivers of employee engagement*. Falmer: IES – Institute For Employment Studies. Retrieved from https://www.employment-studies.co.uk/system/files/resources/files/408.pdf

Rodríguez-Montalbán, R., Martínez-Lugo, M., & Sánchez-Cardona, I. (2014) Análisis de las propiedades psicométricas de la Utrecht Work Engagement Scale en una muestra de trabajadores en Puerto Rico. *Universitas Psychologica, 13*(4), 1255-1266. https://doi.org/10.11144/Javeriana.UPSY13-4.appu

Rothbard, N. (2001). Enriching or depleting? The dynamics of engagement in work and family roles. *Administrative Science Quarterly, 46*(4), 655-684. https://doi.org/10.2307/3094827

Saks, A. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology, 21*(7), 600-619. https://doi.org/10.1108/02683940610690169

Schaufeli, W., & Bakker, A. (2009). *UWES: Utrecht Work Engagement Scale – Escala de Engagemento no Trabalho de Utrecht*. (R.

Angst, A. M. T. Benevides-Pereira, P. C. Porto-Martins, Trad). Utrecht: GEPEB – Grupo de Estudos e Pesquisas sobre Estresse e Burnout. Retrieved from https://www.wilmarschaufeli.nl/publications/Schaufeli/Test%20Manuals/Test_manual_UWES_Brazil.pdf

Schaufeli, W., & Bakker, A. (2010). Defining and measuring work engagement: bringing clarity to the concept. In: A. Bakker & M. Leiter. *Work engagement: A handbook of essential theory and research* (pp. 10-24). Psychology Press.

Schaufeli, W., Bakker, A., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: a cross-national study. *Educational and Psychological Measurement,* 66(4), 701-716. https://doi.org/10.1177/0013164405282471

Schaufeli, W., Salanova, M., Gonzalez-Roma, V., & Bakker, A. (2002). The measurement of engagement and burnout: a two sample confirmatory factor analytic approach. *Journal of Happiness Studies, 3*(1), 71-92. Retrieved from https://link.springer.com/journal/10902

Schaufeli, W., Shimazu, A., Hakanen, J., Salanova, M., & De Witte, H. (2017). An ultra-short measure for work engagement: the UWES-3 validation across five countries. *European Journal of Psychological Assessment, 35*(4), 577-591. https://doi.org/10.1027/1015-5759/a000430

Seligman, M., & Csikszentmihalyi, M. (2000). Positive psychology: an introduction. *American Psychologist, 55*(1), 5-14. https://doi.org/10.1037/0003-066X.55.1.5

Seppälä, P., Mauno, S., Feldt, T., Hakanen, J., Kinnunen, U., Tolvanen, A., & Schaufeli, W. (2009). The construct validity of the Utrecht Work Engagement Scale: multisample and longitudinal evidence. *Journal of Happiness Studies, 10*(4), 459-481. https://doi.org/10.1007/s10902-008-9100-y

Shimazu, A., Schaufeli, W., Kosugi, S., Suzuki, A., Nashiwa, H., Kato, A., Sakamoto, M., Irimajiri, H., Amano, S., Hirohata, K., Goto, R., Kitaoka-Higashiguchi, K. (2008). Work Engagement in Japan: validation of the Japanese version of the Utrecht Work Engagement Scale. *Applied Psychology – An International Review, 57*(3), 510-523. https://doi.org/10.1111/j.1464-0597.2008.00333.x

Shuck, B. (2011). Four emerging perspectives of employee engagement: an integrative literature review. *Human Resource Development Review, 10*(3), 304-328. https://doi.org/10.1177/1534484311410840

Simbula, S., Guglielmi, D., Schaufeli, W., & Depolo, M. (2013). An Italian validation of the Utrecht Work Engagement Scale: characterization of engaged groups in a sample of schoolteachers. *Bollettino di Psicologia Applicata,* (268), 43-54. Retrieved from http://www.giuntipsy.it/bpa/la-rivista/

Simpson, M. (2009). Engagement at work: a review of the literature. *International Journal of Nursing Studies, 46*(7), 1012–1024. https://doi.org/10.1016/j.ijnurstu.2008.05.003

Sinval, J., Pasian, S., Queirós, C., & Marôco, J. (2018). Brazil-Portugal transcultural adaptation of the uwes-9: internal consistency, dimensionality, and measurement invariance. *Frontiers in Psychology,* 9, 1-18. https://doi.org/10.3389/fpsyg.2018.00353

Siqueira, M., Martins, M. C. F., Orengo, V., & Souza, W. (2014). Engajamento no trabalho. In: M. Siqueira (Org.). *Novas Medidas do Comportamento Organizacional: Ferramentas de diagnóstico e de gestão* (pp. 147-156). Artmed.

Soane, E., Truss, C., Alfes, K., Shantz, A., Rees, C., & Gatenby, M. (2012). Development and application of a new measure of employee engagement: the ISA Engagement Scale. *Human Resource Development International, 15*(5), 529-547. https://doi.org/10.1080/13678868.2012.726542

Song, H.-D., Hong, A., & Jo, Y. (2020). Psychometric investigation of the Utrecht Work Engagement Scale-17 using the rasch measurement model. *Psychological Reports,*

003329412092249. https://doi:10.1177/00033294120922494

Spontón, C., Medrano, L., Maffe, L., Spontón, M., & Castellano, E. (2012). Validación del cuestionario de engagement UWES a la población de trabajadores de Córdoba, Argentina. *Liberabit, 18*(2), 147-154. Retrieved from http://revistaliberabit.com/es/publicaciones/

Storm, K., & Rothmann, S. (2003). A psychometric analysis of the Utrecht work engagement scale in the South African police service. *SA Journal of Industrial Psychology, 29*(4), 62-70. https://doi.org/10.4102/sajip.v29i4.129

Sulaiman, W., & Zahoni, N. (2016). Validation of the Utrecht Work Engagement Scale (UWES) in the Malaysian context. *International Journal of Social Science and Humanity,* 6(9), 672-676. https://doi.org/10.18178/ijssh.2016.6.9.730

Teles, H., Ramalho, N., Ramalho, V., & Ribeiro, S. (2017). Adaptação e validação da Utrecht Work Engagement Scale (UWES) aplicada a assistentes sociais em Portugal. *Revista Portuguesa de Investigação Comportamental e Social, 3*(2), 10-20. https://doi.org/10.7342/ismt.rpics.2017.3.2.52

Tomás, J., de los Santos, S., Georgieva, S., Enrique, S., & Fernández, I. (2018). Utrecht Work Engagement Scale in Dominican teachers: dimensionality, reliability, and validity. *Revista de Psicología del Trabajo y de las Organizaciones, 34*(2), 89-93. https://doi.org/10.5093/jwop2018a11

Tran, T., Watanabe, K., Imamura, K., Nguyen, H., Sasaki, N., Kuribayashi, K., … Kawakami, N. (2020). Reliability and validity of the Vietnamese version of the 9-item Utrecht Work Engagement Scale. *Journal of Occupational Health, 62*(1). https://doi:10.1002/1348-9585.12157

Vallières, F., McAuliffe, E., Hyland, P., Galligan, M., & Ghee, A. (2017). Measuring work engagement among community health workers in Sierra Leone: validating the Utrecht Work Engagement Scale. *Revista de Psicología del Trabajo y de las Organizaciones, 33*(1), 41-46. https://doi.org/10.1016/j.rpto.2016.12.001

Vargas, C., Gumbau, S., Sánchez, A., & Bannack, M. (2016). Validación de la escala UWES-9 en profesionales de la salud en México. *Pensamiento Psicológico, 14*(2), 89-100. https://doi.org/10.11144/javerianacali.PPSI14-2.veup

Vazquez, A., Magnan, E., Pacico, J., Hutz, C., & Schaufeli, W. (2015). Adaptation and validation of the Brazilian version of the Utrecht Work Engagement Scale. *Psico-USF, 20*(2), 207-217. https://doi.org/10.1590/1413-82712015200202

Viljevac, A., Cooper-Thomas, H., & Saks, A. (2012). An investigation into the validity of two measures of work engagement. *The International Journal of Human Resource Management, 23*(17), 3692-3709. https://doi.org/10.1080/09585192.2011.639542

Wefald, A., Mills, M., Smith, M., & Downey, R. (2012). A comparison of three job engagement measures: examining their factorial and criterion-related validity. *Applied Psychology – Health and Well Being, 4*(1), 67-90. https://doi.org/10.1111/j.1758-0854.2011.01059.x

Witemeyer, H., Ellen, P., & Straub, D. (2013). Validating a practice-informed definition of employee engagement. In: *Third International Conference On Engaged Management Scholarship*, Atlanta, EUA. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2327895

Xanthopoulou, D., Bakker, A., Kantas, A., & Demerouti, E. (2012). Measuring burnout and work engagement: factor structure, invariance, and latent mean differences across Greece and the Netherlands. *International Journal of Business Science and Applied Management, 7*(2), 40-52. Retrieved from http://www.business-and-management.org/issues.php

Yusoff, R., Ali, A., Khan, A., & Bakar, S. (2013). Psychometric evaluation of Utrecht Work Engagement Scale among academic staff in universities of Pakistan.

World Applied Sciences Journal, 28(11), 1555-1560. https://doi.org/10.5829/idosi.wasj.2013.28.11.2014

Zecca, G., Györkös, C., Becker, J., Massoudi, K., de Bruin, G., & Rossier, J. (2015). Validation of the French Utrecht Work Engagement Scale and its relationship with personality traits and impulsivity. *European Review of Applied Psychology, 65*(1), 19-28. https://doi.org/10.1016/j.erap.2014.10.003

Notes

* Review article.